

# hp StorageWorks Business Copy EVA/MA/EMA v2.2

## Using BC with Continuous Access EVA and Data Replication Manager

**Product Version:** v2.2

Second Edition (October 2003)

**Part Number:** T3032-96108

The HP StorageWorks "Business Copy (BC) for Enterprise Virtual Array (EVA), Modular Array (MA), and Enterprise Modular Array (EMA)" is the new name for the "Enterprise Volume Manager (EVM)" software. This document summarizes the considerations when using BC with Continuous Access EVA and Data Replication Manager (DRM).



---

© 1999–2003 Hewlett-Packard Development Company, L.P.

Hewlett-Packard Company makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

This document contains proprietary information, which is protected by copyright. No part of this document may be photocopied, reproduced, or translated into another language without the prior written consent of Hewlett-Packard. The information contained in this document is subject to change without notice.

Hewlett-Packard Company shall not be liable for technical or editorial errors or omissions contained herein. The information is provided “as is” without warranty of any kind and is subject to change without notice. The warranties for Hewlett-Packard Company products are set forth in the express limited warranty statements for such products. Nothing herein should be construed as constituting an additional warranty.

Printed in the U.S.A.

Business Copy EVA/MA/EMA v2.2 Using BC with Continuous Access EVA and Data  
Replication Manager Application Notes  
Second Edition (October 2003)  
Part Number: T3032–96108

## About this Document

This document describes considerations for using Business Copy (BC) v2.2 with Continuous Access EVA, and BC 2.0 or later with Data Replication Manager (DRM).

## Application Notes Information

These Application Notes cover the following major topics:

- [What's New in This Release](#), page 4
- [Overview](#), page 5
- [Using BC in Continuous Access EVA Environments](#), page 6
- [Configuring BC in DRM Environments](#), page 15

## Intended Audience

This document is intended for anyone who is using BC in Continuous Access EVA or DRM environments.

## Other Documentation

Access the following links for further documentation:

- For BC: <http://h18000.www1.hp.com/products/storage/software/bizcopyeva/index.html>.
- For Continuous Access EVA and DRM: <http://h18006.www1.hp.com/products/storage/software/conaccesseva/index.html>.

You can provide feedback on BC by sending email to: [BCFeedback@hp.com](mailto:BCFeedback@hp.com).

## What's New in This Release

[Table 1](#) lists what's new in BC v2.2 that is relevant for using it in Continuous Access EVA environments.

**Table 1: What's New for BC v2.2**

Feature	Description
Continuous Access EVA configuration support	<p>Added support for storage systems and host agents running at both the source and destination sites in Continuous Access EVA environments.</p> <p>Added the <code>SET CA SUBSYSTEM</code> operation for BC jobs for specifying the storage system associated with the volume you are replicating. You must use this operation in BC jobs in Continuous Access EVA environments, or BC will fail the job during validation, because it will not know which storage system is applicable for the replication volume.</p> <p>This operation solves the problem in BC 2.1a of duplicate World Wide Names for virtual disks where you needed to deselect Continuous Access EVA storage to avoid conflicts. If you are updating from BC 2.1a, you no longer have to deselect Continuous Access EVA storage in the BC GUI <b>Configuration Page &gt; Subsystem Options</b>.</p> <p>See the BC Online Help &amp; User Guide for more information on this operation.</p>

## Overview

Using BC with HP StorageWorks Continuous Access EVA provides flexible solutions to achieve business continuancy, including disaster recovery and prevention. BC v2.2 provides replication by creating *point-in-time* copies of a virtual disk on the same storage system as the source. The point-in-time copies known as Business Continuance Volumes (BCVs), use the snapshot and snapclone technology of EVA storage systems.

Continuous Access EVA provides replication by creating *real-time, ongoing* copies (commonly called remote mirrors) of virtual disks on a different storage system than the source. Typically, the storage systems are located at different facilities or sites. To perform the mirroring, Continuous Access EVA uses the remote replication features of the EVA Virtual Controller Software (VCS).

BC is compatible with Data Replication Manager (DRM), meaning they can co-exist if properly configured.

## Prerequisites

This document assumes that you have a working BC network and a Continuous Access EVA or DRM environment. If you have *both* Continuous Access EVA and DRM configurations, each configuration must be in its own management zone. For instructions on how to zone these configurations so they are independent of each other, see the Continuous Access EVA and DRM documentation.

## Using BC in Continuous Access EVA Environments

This section describes considerations when configuring BC in Continuous Access EVA environments. Topics include:

- [Requirements and Support](#), page 6
- [Supported Configurations](#), page 7
- [Planning for Disaster Recovery](#), page 10
- [Planning Your Configuration: What You Should Know](#), page 11

### Requirements and Support

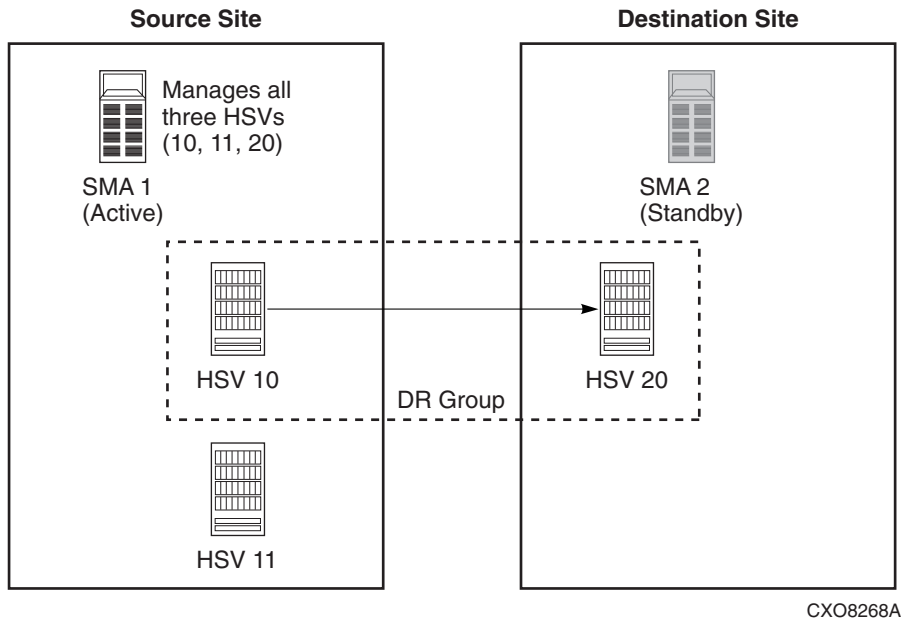
[Table 2](#) describes requirements and support for using BC v2.2 with Continuous Access EVA.

**Table 2: BC/Continuous Access EVA Requirements and Support**

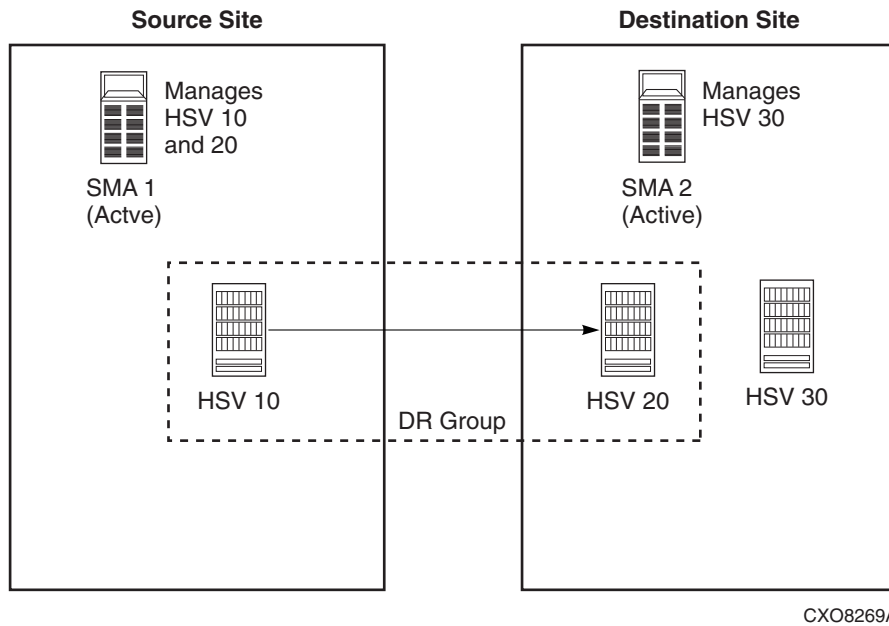
Topic	Requirements
BC	v2.2
Continuous Access EVA	v.1.1
BC jobs	You must use the <code>SET CA SUBSYSTEM</code> operation in BC jobs to specify the HSV storage system for the replication volume; if you do not, the job will fail at validation. See the Online Help & User Guide for details on using this operation.

## Supported Configurations

Figure 1, Figure 2, and Figure 3 show the supported BC configurations in Continuous Access EVA environments. For information on configuring active and standby SMAs, see *HP OpenView Storage Management Appliance Using Multiple System Management Appliances in a SAN Application Notes*.

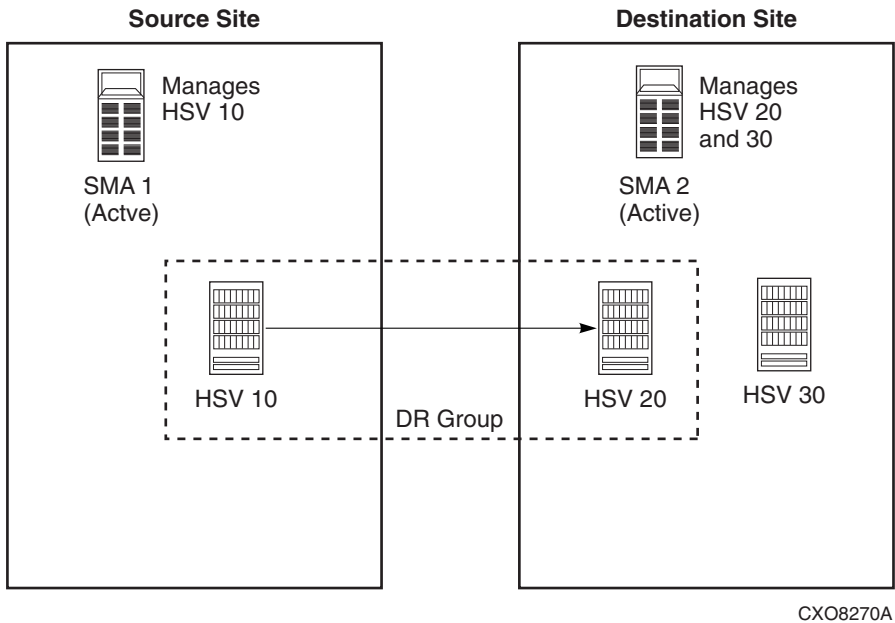


**Figure 1: BC/Continuous Access EVA configuration 1**



**Figure 2: BC/Continuous Access EVA configuration 2**





**Figure 3: BC/Continuous Access EVA configuration 3**

## Planning for Disaster Recovery

Table 3 lists BC guidelines for planning configurations with disaster recovery in mind.

**Table 3: Configuration Considerations**

Topic	Considerations	Notes
BC server/SMA	What are your requirements for BC servers/SMA's?	<p>Your disaster recovery and prevention plans will dictate where BC servers/SMA's are installed, and whether they should be active or standby. Remember, standby BC server/SMA's must be turned off until they are needed.</p> <p>For more information on configuring active and standby SMA's, see the <i>HP OpenView Storage Management Appliance Using Multiple System Management Appliances in a SAN Application Notes</i>.</p>
Host agents	In the event of a disaster, how will you handle host agents?	<p>In the event of a disaster where a BC server/SMA is not functioning and hosts need to point to different storage systems, you will have to reinstall the host agent software (which could take a long time if you have many host agents), or edit the BC <i>sb.ini</i> file on each host.</p> <p>When a BC host agent is installed, it is configured to communicate with a specific SMA. If the SMA fails and another SMA with a different name is brought online in its place, the host agent will be unable to communicate with the new SMA without being reconfigured. To redirect the host agent to the new SMA, change the <b>APPL_NAME</b> field of the host agent's BC <i>sb.ini</i> file to reflect the name of the new SMA. Depending on the network configuration, it may be necessary to use a fully-qualified domain name or an IP address to allow the host agent to communicate.</p> <p>You can prepare for a disaster by creating multiple instances of the BC <i>sb.ini</i> file so you can quickly copy and rename the file as needed.</p>

**Table 3: Configuration Considerations (Continued)**

Topic	Considerations	Notes
Jobs	In the event of a disaster, how will you handle BC jobs?	If a BC server/SMA is not functioning and jobs need to be re-routed to an alternate BC server/SMA, jobs need to be modified to point to the correct storage systems. You can proactively edit existing jobs to point to potential alternate storage so they will be ready to go.
BC software updates	In the event of a disaster, can you access BC software components?	Plans should be in place for quick retrieval of BC software components via CD or other media. HP recommends making a backup of the BC installation CD whenever you update from one version of BC to another. This ensures that BC installations and updates can be performed quickly without re-downloading files.

## Planning Your Configuration: What You Should Know

This section contains information you need to know for planning your BC configuration in a Continuous Access EVA environment.

### Management Control of SMAs

BC jobs require an active management link between a single SMA (running a linked pair of BC and Command View EVA) and the EVA to be managed. If BC jobs are running at a site, and another active SMA takes control of that EVA, BC jobs on the original SMA will fail. Management control can only be changed by browsing to Command View EVA on an alternate active SMA and deliberately taking control of that EVA (see Command View EVA documentation). Make sure you are aware of which jobs may be impacted by changing management control from one active SMA to another.

### Using the SET CA SUBSYSTEM Operation

In Continuous Access EVA environments, BC sees all Continuous Access EVA resources. In a BC job involving replicating volumes, you must tell BC which storage system the volume being replicated is associated with. This is done by using the SET CA SUBSYSTEM operation.

If you do not use this operation, the BC job will fail at validation with the following error because it sees duplicate volumes and does not know which storage system you intend for the operation:

```
Operation uses multiple subsystems, but no matching SET
CA SUBSYSTEM found.
```

## Replicating Virtual Disk in DR Groups

When using BC to replicate virtual disks in Data Replication (DR) groups, note the following Continuous Access EVA recommendations and rules:

- When using Continuous Access EVA to create a DR group, HP recommends including only 1 virtual disk.
- An active virtual disk can have a maximum of 7 snapshots.
- A DR group can contain a maximum of 8 copy sets, and up to 8 additional non-copy set virtual disks. A snapshot of an active virtual disk counts against the limit of 8 snapshots and snapclones, not the copy set limit. (A snapshot cannot be part of a copy set.)
- When first unshared from an active virtual disk, a snapclone is not part of any DR group. To become a member, it must be manually assigned to a DR group.

Table 4 addresses other replication questions.

**Table 4: Frequently Asked Questions—Continuous Access EVA**

Topic	Question	Answer
Replication	If I use BC v2.2 to make a replication of a source virtual disk in a DR group, does Continuous Access EVA automatically create a corresponding destination virtual disk?	No. When created by the VCS, a snapclone is not part of any DR group. Only if you subsequently use Continuous Access EVA to designate the replication as a source in a DR group will Continuous Access EVA automatically create the corresponding destination virtual disk.
	Can I use BC v2.2 to replicate the source and destination virtual disks in a DR group?	Yes. You can use BC v2.2 to replicate a source or destination virtual disk, provided each virtual disk is visible to BC v2.2 and the virtual disk meets the rules that allow it to be replicated by the VCS. You must use a separate BC replication operation for each virtual disk.

**Table 4: Frequently Asked Questions—Continuous Access EVA (Continued)**

Topic	Question	Answer
Virtual disk unavailable	If the BC site virtual disk is not available, what happens to data?	Continuous Access EVA will log the data on the alternate site storage system until the BC site virtual disk becomes available. It will then automatically resync and update the BC site with the data logged on the alternate site.

## Host-Related BC Job Operations

Table 5 lists BC host-related job operations. These operations can only be used with hosts at the site that have BC host agent software installed.

**Table 5: BC Host-Related Job Operations—Continuous Access EVA**

Operation Type	Operation	Description
<b>Replication</b>	<i>normalize volume</i>	Checks the states of virtual disks that comprise a volume by specifying the host and volume name.
	<i>snap volume (snapclone)</i>	Creates a point-in-time snapclone copy of the virtual disks that comprise a volume by specifying the host and volume name. Operation applies only to EVA.
	<i>snap volume (snapshot)</i>	Creates a point-in-time snapshot copy of the virtual disks that comprise a volume by specifying the host and volume name.
	<i>set ca subsystem</i>	Specifies in which of the two storage systems in a Continuous Access EVA environment you want to create the snapshot or snapclone.
<b>Mounting</b>	<i>mount unit</i>	Presents a unit-based BCV to the specified host and requests mounting by the host OS using the specified parameters.
	<i>mount volume_all</i>	Presents a volume-based BCV to the specified host and requests mounting by the host OS of all BCV components using the specified parameters. BCV components can only be logical volumes.
	<i>mount volume_single</i>	Presents a volume-based BCV to the specified host and requests mounting by the host OS of one BCV component using the specified parameters. The BCV component may be an OS defined partition, slice, disk section, or logical volume.
	<i>unmount</i>	Unmounts a specific volume from a host.

**Table 5: BC Host-Related Job Operations—Continuous Access EVA (Continued)**

Operation Type	Operation	Description
<b>Mounting</b>	<i>set_volume_BCV</i>	Specifies the volume to be unmounted; this operation can only be used with the <code>UNMOUNT</code> operation.
	<i>set_unit_BCV</i>	Specifies the unit or virtual disk to be mounted; this operation can only be used with the <code>MOUNT</code> operation.
<b>Interaction</b>	<i>launch</i>	Executes an operation, batch file, or script on the specified host.
	<i>launchundo</i>	Executes an operation, batch file, or script on the specified host when undoing a BC job.
	<i>resume</i>	Executes an operation, batch file, or script on the specified host. Resume is typically used to restart database I/O that was halted by a BC suspend operation.
	<i>suspend</i>	Executes an operation, batch file, or script on the specified host. Suspend is typically used to briefly halt the I/O of a database or other application that is running on a host computer.

## Configuring BC in DRM Environments

BC can co-exist with DRM if it is properly configured.

### Requirements and Support

Table 6 describes requirements and support for configuring BC with DRM.

**Table 6: BC/DRM Requirements and Support**

Topic	Requirements	
BC servers/SMA	DRM management zones cannot include an SMA. The BC server/SMA must be in a zone that is separate from the DRM management zone.	
BC host agents	BC host agent software can be installed on any host system at the target or initiator site that has physical and logical connectivity to the HSG storage in a BC zone.	
Data transfer mode	The DRM configuration must use the synchronous transfer mode. This ensures that data is written to the target site disks before BC creates the BCV. See DRM documentation for information on enabling synchronous mode.	
Topic	Supported	Not Supported
Replication	Clone and snapshot replication of target site virtual disks, and clone replication of initiator site virtual disks	Snapshot replication of virtual disks at the initiator site

